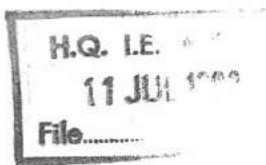


ESTABLISHED 1919  
INCORPORATED BY ROYAL CHARTER 1938

# *The Institution of Engineers, Australia*

*Western Australia Division*



712 MURRAY STREET,  
WEST PERTH, W.A. 6005  
PHONES 321 3340, 321 9553

The Institution of Engineers, Australia  
Engineering Marker Sub Committee  
11 National Circuit  
BARTON ACT 2600

Dear Sir

## **PRINCESS ROYAL BATTERY AND MAGAZINE COMMEMORATIVE PLAQUE**

Please find enclosed an application seeking declaration of the Princess Royal Battery and Magazine as an Historic Engineering Marker.

The establishment, commonly referred to as the Mt Adelaide Forts, is currently the subject of a restoration project being carried out by the Town of Albany. During their visit to Albany in September 1987 the Federal President Mr David Skillington and the Western Australian Chairman Mr Bruce James toured the "Forts" project and witnessed first hand the remarkable engineering feat of the subterranean tunnel network.

The I.E.A Albany Group has received a favourable response from the Town of Albany to the suggested erection of a commemorative plaque (copy of correspondence attached). In addition the Town Council have provided details of the biography of John Blackbourn, the Engineer credited with the design and construction of the Forts, as well as providing some chronological and technical details for inclusion on the plaque.

The official public opening of the restored Princess Royal Battery and Magazine is set for 19th November 1988. Accordingly the Group feels that if possible it would be appropriate to hold the plaque unveiling ceremony during the fortnight preceeding the official opening.

The Western Australian Division has advised that they will support and finance the erection of the plaque. The Albany Group therefore seeks inclusion of this project in the Australian Engineering Marker Programme.

.../2

.../2

Submitted for consideration and reply at your earliest convenience to enable preparation and mounting of the plaque.

Yours faithfully

A handwritten signature in dark ink, appearing to read 'Rod Kerr', with a long, sweeping horizontal stroke extending to the right.

Rod Kerr  
SECRETARY/TREASURER  
ALBANY GROUP

July 6 1988

Encs

## ENGINEERING MARKER PROGRAMME

To: The Institution of Engineers, Australia,  
Engineering Marker Sub-committee,  
11 National Circuit,  
Barton, A.C.T. 2600.

Date: 6<sup>th</sup> July 1988

From: I.E.A.

Albany Group  
Western Australia

(name of Division or  
Committee).

This is to nominate the following Work for Historic Engineering Marker or  
~~National Historic Engineering Landmark~~ treatment (please delete whichever  
does not apply)

(Name of Work) Princess Royal Battery and Magazine  
Located at Mt Adelaide, Albany  
State Western Australia Please furnish

the address (and map grid reference if a fixed Work) \_\_\_\_\_  
117° 54' 50" E 35° 01' 50" S

The Work is owned by Town of Albany

In support of this nomination the following information is provided:

(A) For dedicating an Historic Engineering Marker.

1. Proposed wording on Marker plate

Refer attachment.

2. Justification of claims made in citation:

- Structure recently restored by Town Council.
- History has been researched by Council's Special Projects officer.
- Biography of Mr John Blackburn attached.

2) For designation as a National Historic Engineering Landmark

1. Date of construction (or other significant date):
2. Name of key professional personnel associated with the Work
3. Engineering historic significance of the Work
4. Comparable or similar Works (a) in Australia. (b) Overseas.
5. Unique features or characteristics which set this proposed Landmark apart from other engineering Works, including those in 4 above.
6. Contribution which this Work has made towards the development of:  
(1) the engineering profession and/or (2) the nation:
7. In further support of this nomination the following documentation is submitted: (Please list all enclosed documents, photographs, and supporting historical evidence.

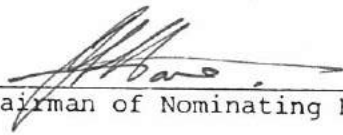
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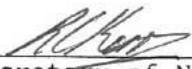
For completion by Committee or body (other than a Division) making the Submission.  
A copy of this Submission has been forwarded to the Secretary of the Western Australian  
Division at Murray Street, WEST PERTH.

We have discussed this nomination with the owner of the Work. The owner has  
indicated that they support the erection of a plaque to recognise the Engineering feats.  
(include statement regarding owner's attitude)

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If this nomination is approved by the Institution of Engineers, Australia, we  
understand that the nominating body will take the major responsibility in  
the development of a suitable presentation event at which the plaque will be  
presented.

  
Chairman of Nominating Body

 6/7/88.  
Secretary of Nominating Body

This form may be reproduced either by electrostatic copying or by retyping.  
If possible, please submit three (3) copies of all materials relating to the  
nomination. If more space is required to provide full response to any of the  
above, please attach additional pages.

NOTE: With enclosed additional documentation please also include 200 x 250 mm  
black and white photos which depict the work and can be used for publicity purposes.

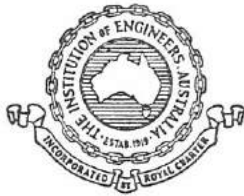
## PRINCESS ROYAL BATTERY AND MAGAZINE

AS A MILITARY ENGINEER WITH THE VICTORIAN PUBLIC WORKS, MR JOHN BLACKBOURN  
CONSTRUCTED THIS FIRST FEDERAL FORTRESS.

THE WORK ON MT ADELAIDE AND POINT KING WAS CARRIED OUT BY 44 MEN BETWEEN  
JUNE 1891 AND SEPTEMBER 1892.

APPROXIMATELY 2000 CUBIC METRES OF ROCK WERE BLASTED AND 600 CUBIC METRES  
OF CONCRETE POURED TO FORM THESE STRUCTURES WITH WALLS UP TO 900mm THICK.

THE DURABILITY OF THE STRUCTURE IS TESTIMENT TO 19th CENTURY ENGINEERING.



ESTABLISHED 1919  
INCORPORATED BY ROYAL CHARTER 1938

# *The Institution of Engineers, Australia*

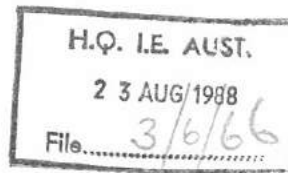
*Western Australia Division*

ALBANY BRANCH

712 MURRAY STREET,  
WEST PERTH, W.A. 6005  
PHONES 321 3340, 321 9553

Our Ref: GS  
Your Ref: 3/6/66

17 August 1988



Mr R A Breen  
College Secretary  
The Institution of Engineers Australia  
Joint College  
11 National Circuit  
BARTON ACT 2600

Dear Mr Breen

## **PRINCESS ROYAL BATTERY AND MAGAZINE COMMEMORATIVE PLAQUE**

We thank you for your letter dated 3 August 1988 and enclose further information in relation to the project and the justification for the allocation of an historic engineering marker.

We note the comments of Professor Ray Whitmore, Chairman of the Commemorative Plaque Sub-Committee and for point of clarification and information, respond as follows in relation to the points he has made:

- 1) It should be remembered that federal agreements did not start at Federation, and this is particularly exemplified with the Princess Royal Fortress of King George Sound and its sister fortification of Thursday Island. The fortresses were the first visible sign of the forthcoming Federation, with costs borne on a population pro-rata basis by each of the then, still independent colonies. It is interesting to note that this arrangement for operating costs of the forts was continued until at least 1914. It should also be noted that the fortresses were initially known as Federal Fortresses. Please refer to the attached memorandum of the Federal Council of Australasia.
- 2) In relation to the details as to the operations of construction, please refer to the extracts from early newspapers, dated 20 July 1891 and 19 June 1891. Such reports, along with those others enclosed, provided much of the basis of the research done by the Albany Town Council.
- 3) In relation to the statistics quoted in the original draft wording for the plaque, we advise that the Town Council is in possession of copies of the original plans for construction and therefore, by approximate calculation, the quantities have been determined. It is the belief of our local group that such statistics would assist visitors to the site in appreciating the extent of work

carried out clearly for underground magazines. At first the visitor would not comprehend that walls of 5 feet thick concrete existed, nor would they know without some advice that such structures were blasted out of solid granite. In this regard the plaque might act as an information point for tourists and visitors and relate directly to the engineering considerations at the time of construction.

- 4) It is the belief of the Albany Group that the construction of the magazine in particular is of special note, being built in a granite pit literally. The magazine shows none of the usual deterioration of underground magazines and has no drainage or damp problems which in other cases have lead to damage over a period of time. It is therefore considered that although the full design criteria have never been tested that its durability over time, which is again being considered a major criterion in design, is certainly an indication of the quality of the work carried out. It is interesting to note also from the attached information of Mr Blackbourn's testing methods which unfortunately in the newspaper extracts have not been sufficiently elaborated upon.

We apologise for the apparent lack of information originally submitted and trust that the enclosures of this letter will suffice. We advise that the Albany Town Council has carried out a concerted research effort in relation to this project, particularly over the last 18 months with persons being employed specifically for the task of determining historical accuracy. We are therefore confident that the information provided by us, with the assistance of the Town Council Special Projects Officer, is historically accurate and in correct context.

We trust that you will appreciate our time constraints in attempting to provide the plaque prior to the official opening of the forts project. It is considered that such will provide the most suitable exposure to the press whilst aiding the Town Council in its build-up to the opening celebrations. We might add that the opening celebrations will be a significant event on 19 November, with involvement of various sectors of the Australian Defence organisations, along with other celebrations for that week.

We in Albany are not only proud of the original works carried out by Mr Blackbourn and his crew, moreover we are particularly pleased with the work carried out by the Albany Town Council in restoring the area which only 3 years ago, was in an extremely dilapidated and derelict state. This site will be a major tourist destination in itself and worthy of every recognition. As a matter of interest, we advise that the local group of the Institute of Surveyors, has decided to install its own plaque in relation to the works carried out in originally surveying the area. This has resulted following our proposal to install a plaque.

Finally, we would like to request that you reconsider the wording for the plaque and subject to the appropriateness of including the statistics, we suggest amendment to your proposed wording as follows:

**"PRINCESS ROYAL BATTERY AND MAGAZINE**

*These works consisting of  
gun emplacements and magazine  
were constructed in solid granite between 1891 and 1892  
under the supervision of*

**MR JOHN BLACKBOURN**  
**Defence Engineer to the State of Victoria**

*The Battery built to guard Princess Royal Harbour and King George's Sound, never saw hostile action however, its durability is a good example of nineteenth Australian Military Engineering."*

59

*We thank you for your consideration of our application and trust that you have now sufficient information to make a determination. However, should you wish to learn more of the project, please do not hesitate to contact the undersigned on (098) 41 2333 during business hours.*

Yours sincerely

  
**Gary J Stevenson**  
Vice President  
Albany Group  
The Institution of Engineers Australia  
c/- 70 Boronia Avenue  
ALBANY WA 6330





## FEDERAL COUNCIL OF AUSTRALASIA.

SESSION OF 1893.

### LIST OF PRINTED PAPERS.

<i>Subject of Paper.</i>	<i>No.</i>
Standing Committee: Report of Proceedings since last Session .....	1.
Memorandum on the Defences of Albany, King George's Sound, W.A. ....	2.
New Hebrides: Despatches from the Secretary of State for the Colonies: Return to an Address of last Session .....	3.
Australasian Orders in Lunacy Act of 1891: Despatch from the Secretary of State for the Colonies .....	4.
Federal Council Expenditure: Papers relating thereto .....	5.
Memorandum relating to the Defences of Thursday Island .....	6.
Pearl Shell Fishery Acts of 1888 and 1889: Petition .....	7.
Islands of the Pacific Ocean: Despatch and Papers .....	8.
Finance Committee: Report .....	9.

(No. 2.)



1893.

FEDERAL COUNCIL OF AUSTRALASIA.

MEMORANDUM ON THE DEFENCES OF ALBANY,  
KING GEORGE'S SOUND, W.A.

Presented by Mr. Gavan Duffy, and ordered to be printed, January 27, 1893.

3)



## MEMORANDUM ON THE DEFENCES OF ALBANY, KING GEORGE'S SOUND, W.A.

HER Majesty's Government, in a memorandum laid before the Colonial Conference in London, and dated 20th April, 1887, intimated their readiness to supply the following armament for King George's Sound:—

Four 8-in. R.M.L. guns.  
Two 40-pr. R.B.L. guns.  
Four 9-pr. R.M.L. guns, on field carriages.  
And sub-marine mines and stores valued at £3500.

It was proposed to concentrate the defence on Point King, the northern side of the entrance to the Princess Royal Harbour, and it was stated "the sites on Point Possession will be left intact for subsequent occupation when the growth of the commercial importance of the harbour demands an extension of the defence."

The colonial delegates, whilst agreeing generally in the principle of joint action in relation to these defences, considered that the armament proposed should be of more modern type.

In a telegram of 6th March, 1888, and subsequently by a circular despatch of 31st August, 1889, Lord Knutsford informed the Colonies that Her Majesty's Government had determined to meet the wish expressed by the Colonies and to supply new type guns on the understanding that the Colonies would be ready to construct the necessary works and maintain the garrisons.

							£
The revised armament was to be—							
Three 6-in. B.L. guns on Hydro-pneumatic mountings, with 100 rounds of							
ammunition per gun, estimated cost...	...	...	...	...	...	...	10,000
Six 9-pr. M.L. guns, on field carriages, with 100 rounds of ammunition per gun,							
estimated cost...	...	...	...	...	...	...	1776
	Total	...	...	...	...	...	11,776
Submarine mining stores	...	...	...	...	...	...	3500
	Total	...	...	...	...	...	15,276

The opportunity was taken of the assembly of the Federal Conference at Melbourne (1890) to hold a meeting of the representatives of the Colonies (14th February, 1890), to consider the proposals of the Imperial Government, and the following resolutions were agreed to:—

1. That in view of the divergence of opinion as to the nature of the armament required, a meeting of the commandants of the several Colonies should be convened, and that the Officers should visit and report on the armament necessary for the adequate protection of these places.
2. That the Admiral Commander-in-Chief of the Station should be requested to nominate a Naval Officer to act with these Officers.
3. That the Imperial Government be asked to contribute the sum of £26,460 in money instead of in armament, on the understanding that the Colonies shall undertake the work of constructing and arming the defences with guns of modern B.L. type, and that the weapons shall not be less in number than those proposed in Lord Knutsford's despatch.
4. That in order to prepare the plans and superintend the works, the Imperial Government should be asked to give the services of an Engineering Officer.

5. That the garrisons should be provided by the Colonies.
6. That as the defences of Tasmania and also of Port Darwin were of strategic importance, these places should also be visited and reported on.
7. That the matter should be left to the Victorian Government to take such steps as are necessary to carry out these proposals.

These resolutions were communicated to the Secretary of State for the Colonies, and, with reference to No. 3, the following cable message was received on 6th November, 1890 :—

"Referring to your despatch 34 of 13th March, 3rd resolution, delegates in War Office are providing for six 6-in., mark 6, guns and 200 rounds of ammunition per gun. Cannot now give money contribution in lieu of guns, £28,000 sterling grant by Treasury, unexpended balance necessarily small."

With reference to No. 2, the Admiral was unable to spare the services of a naval officer, but the Admiralty nominated Captain Moore, R.N., from home.

The Committee of Commandants met at Albany on 23rd November, 1890, and furnished a detailed report (copy attached) on the 29th December, 1890.

Later, with the concurrence of the other Colonies, the work of erecting the fortifications was undertaken by the Government of Victoria, the expense to be afterwards adjusted on the basis of population of the contributing Colonies, except that £5000 is to be contributed by the Government of Western Australia.

The work was placed under the supervision of Mr. Blackburn, an engineer of the Public Works Department, who acted under instructions from Major Rainsford-Hannay, R.E., the Commanding Engineer, in May, 1891.

Major Rainsford-Hannay made two separate visits of inspection while the works were in progress, and finally reported in November last as follows :—

*From Commanding Engineer to Military Commandant.*

WORKS COMPLETED.—The works comprise the following :—

- (a) Emplacements for three 6-in B.L. guns, on barbette mountings, with cartridge recesses, fuse and shell recesses, side-arm racks, &c.
- (b) Two magazines, each with two chambers, for 6-in. B.L. guns.
- (c) One magazine chamber for 9-pr. field guns.
- (d) Laboratory.
- (e) Artillery store.
- (f) Submarine mining store and office.
- (g) Gun-shed for 9-pr. guns and for drill.
- (h) Married officers' quarter.
- (i) Married warrant officers' quarter.
- (j) Married N.C.O. or caretaker's quarter.
- (k) Barracks for 28 N.C.O.'s and men (including canteen, recreation room, horse and cart shed, 9000-gallon underground tank, offices, &c.)
- (l) Five-acre paddock, cleared, fenced, and sown.
- (m) Roads—Upwards of 1½ miles cleared, formed, and metalled.
- (n) Flagstaff erected, and flag-box provided.

All the above works have been carried out in a most satisfactory manner, and I consider they reflect great credit on Mr. Blackburn, the engineer in charge, who has ably followed his instructions.

Concealment has been studied, and I think the batteries will be very inconspicuous and difficult to hit when grass and scrub have grown sufficiently to cover up the newly-turned soil. The magazines are very dry, well ventilated, and secure from fire; and the barracks are comfortable and well found.

The lower battery is in every way satisfactory; but the upper one gave much trouble, the site being on very hard rock, which had to be blasted away at considerable expense. A large quantity of spoil had also to be brought from some distance to mask the rocks, and as far as possible save danger from splinters. The parapets and ground in front for some distance have now been made quite safe in this respect. The only rocks now which might cause trouble are immediately behind the guns, and this could hardly have been avoided without heavy expenditure. Any shot striking them will have to be a very good one, as it must pass close to the gun. A small sand-bag revetment will do much to prevent danger from splinters.

ROADS OUTSIDE MILITARY RESERVE.—A small portion of the road from Albany to the batteries is still unformed. As it is outside the military reserve, I brought the matter to the notice of the West Australian Government, and I have reason to believe steps will be taken to make the road at an early date.

It has been proposed locally to make a bridle-track from Middleton Beach to Point King, connecting with the existing road from that point to the town, and correspondence on the subject was referred to me at Perth. This track would, in my opinion, be an advantage from a military

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point of view, as it would facilitate communication with Middleton Beach. It should, however, be made passable for the 9-pr. field guns. I would even suggest paying out of military votes the difference between a bridle-track and a road suitable for field guns, and considering it a military road.

**SUBMARINE MINING JETTY.**—A new jetty is about to be built by the W.A. Government for the harbor master at Albany. If made 8 feet wide, and strong enough to carry a loaded truck weighing 2 tons, it will meet submarine mining requirements for the present. In the event of these requirements being in excess of those of the harbor master, I suggested to the W.A. Government that the defence vote might bear the difference in cost so as to insure a suitable pier. I would now ask to have my suggestion indorsed.

The submarine mining store and office have been built close to the proposed site for this jetty, which will run into 2 or 3 feet of water. The owner of the steam launches at Albany has also a flat bottomed boat, drawing less than one foot of water, and fitted with lifting gear. This boat is used by the harbor master for buoy-work, and would be suitable, with the help of a steam launch, for laying out the small submarine mining defence.

**FURTHER REQUIREMENTS.**—The works having been completed, and arrangements being in train for the permanent force to keep them in order, this appears the proper time to consider, as far as possible, what else should be done to put everything connected with the defences on a proper footing.

**PERMANENT FORCE.**—First, as regards the permanent force, I am not aware if any steps have been taken towards the appointment of a qualified officer to command the same.

Two trained submarine miners have yet to be appointed. These should be exceptionally good men, as, although the submarine mining defence is small, the work is so technical, the senior will have considerable responsibility. Until the rates of pay are fixed it will be impossible to say if suitable men from the other Colonies can be induced to serve at Albany.

**LOCAL FORCE ARTILLERY.**—From the report of the Commandants of November, 1890, it will be seen that a local Artillery force of 60 is required on the partially-paid system. No steps have yet been taken towards raising this force, which is absolutely essential to man the guns.

**INFANTRY.**—In the same report, the required force of Infantry is put at 300, to be supplied from a force of 600 strong, raised in Perth, Fremantle, and neighbourhood.

The existing local forces in the colony are quite unable to meet this demand, and considerable extra expense must be faced before it can be met.

Without the local Artillery and the Infantry force the batteries will be valueless. The permanent force will be quite insufficient to man the guns, and without an Infantry defence a small landing party could capture the batteries. These important matters therefore demand early attention.

**SIGNAL STATION AND TELEGRAPHIC COMMUNICATION.**—The Commandants recommended a signal station on Grove Hill, in telegraphic communication with the battery at Point King, and through it with the town of Albany. Telegraphic or telephonic communication between the batteries should also be provided. I would suggest a central station in the barracks with branches to the batteries, and to Grove Hill. This communication is important, and should be taken in hand.

**STORES.**—Range-finders and other artillery stores will be required, and the necessary funds should be forthcoming.

**CAMP EQUIPMENT.**—Camp equipment will be necessary for the Infantry if called out, as also for the local Artillery.

**SAND-BAGS.**—One thousand sand-bags should be provided and kept in store for masking rocks, and for Infantry defence generally.

F. RAINSFORD-HANNAY,  
Major, Commanding Engineer.

The defence works, on completion, were handed over to the charge of the Government of Western Australia.

The estimated cost was £15,090 10s.

The actual cost to date :—

EXPENDITURE ON DEFENCE WORKS AT ALBANY, WESTERN AUSTRALIA.

Contracts, &c.—					£	s.	d.
Cement	...	...	...	...	971	8	0
Barracks, Quarters, &c.	...	...	...	...	2,833	18	7
Gun-shed	...	...	...	...	662	12	6
Fencing Barracks	...	...	...	...	68	5	9
Fencing Gun-shed Reserve	...	...	...	...	22	17	9
Fittings for Magazines	...	...	...	...	166	14	11
Copper Lamps	...	...	...	...	64	13	5
Clearing 5 acres	...	...	...	...	55	0	0
Fencing 5 acres	...	...	...	...	68	8	2
Fencing	...	...	...	...	33	3	11
Wages	...	...	...	...	6,522	3	9
Materials, Stores, &c.	...	...	...	...	2,733	10	1
					£14,202	16	10
Cr. Shovels, Plant, &c.					44	11	6
					£14,158	5	4

NOTE.—Add Salary, Allowances, and Expenses of  
Engineer in Charge from 18th May, 1891, to  
22nd November, 1892, approximately ...

1,600 0 0  
£15,758 5 4

The difference is accounted for by the fact that the expenditure includes a number of items not contemplated in the original estimate, such as laboratory, recreation room, underground tank, furniture (£122), magazine lamps (£72), tools re-handled over (£35), skidding, &c. (£18). A sum of £860 has been expended on roads, which is considerably over what was estimated. On the whole it is estimated that upwards of £1,500 has been expended on "extra" services, exclusive of the cost of cutting out the upper battery in solid rock.

There are still some other expenses to be met, such as the cost of freight for the guns and mountings. Also the cost of supply of submarine mining stores, which, in accordance with the recommendation of the Committee of Officers, will be partly supplied from this colony, whilst the remainder have been ordered from the War Office.

Towards payment of the above expenses the unexpended balance of the grant of £28,000 from the Imperial Treasury will be applied.

On the completion of the emplacements, &c., the Imperial Government was at once advised that everything was in readiness for the mounting of the guns, which are now being waited for.

A reply was received stating that it was expected that the guns would be ready for shipment, and from a more recent cable message which appeared in the public press, it is understood that the guns and mountings are to be shipped by the *Gulf of Taranto* on the 22nd of January.

ROBERT COLLINS, Commander,  
Secretary of Defence.

Defence Department,  
Melbourne, 18th January, 1893.

TO THE HONORABLE THE MINISTER OF DEFENCE, VICTORIA.

In accordance with their instructions the Committee have now reported fully on the subjects submitted to them, viz. :—

1. Sites for Guns.
2. Necessary Garrison.

The latter may still require discussion as to the amounts to be contributed by the different colonies; but with reference to the former, now that the positions for the guns have been selected, if each colony will agree to contribute its quota of the amount pointed out as necessary in circular despatch from the Imperial Government, dated 31st August, 1889, the construction of the emplacements may be commenced at once, and be ready for the guns on their arrival.

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I may mention that as the Forts here are now practically completed, the services of Mr. Blackburn, P.W.D., who has had considerable experience in the construction of our defences, can be made available, and Major Hannay, R.E., can superintend if necessary.

In forwarding this Report the Committee wish to record their appreciation of the cordial manner in which they were received in Western Australia, where every facility was given them towards carrying out their work.

ALEX. B. TULLOCH, Major-General, President.

Melbourne, 29th December, 1890.

## REPORT OF COMMITTEE OF OFFICERS ON THE DEFENCE OF ALBANY, WESTERN AUSTRALIA.

The Committee arrived at Albany on the 23rd November, 1890, and spent the first two days going over the ground and examining all possible sites for guns, &c.

The general description of Princess Royal Harbour and surroundings is so fully given in Sir Peter Scratchley's Report of 1881 that it is unnecessary to again mention them.

The Imperial Government propose to provide three 6-inch guns on H.P. carriages for the defence of Albany. The Committee recommend that this offer be accepted as far as the guns are concerned. Three members of the Committee, however, viz., Major-General Richardson, Colonel French, and Colonel Bernard, are of opinion that it would have been better if one of the guns offered had been a 9.2-inch. The other three members consider that a 9.2-inch gun is not necessary at present.

Proceeding on the assumption that three 6-inch guns are available, the following conclusions are arrived at:—

1. Two of these guns should be mounted on the high ground above Point King, marked "378" on chart. This is a splendid site, and the only one which admits of fire on both Sound and Harbour. The fire of these guns will extend over an arc of nearly 300° from Middleton Beach on the left to the head of the railway pier, inside the Harbour, on the right.
2. The third gun to be mounted on Point King, below and well clear of the large boulders on that point—elevation 115 feet. There is only one suitable site for a gun in this position, without removing the rocks above named, and this would be a heavy and expensive undertaking.
3. These three guns should all be on Barbette mountings. Owing to the commanding sites and the good backgrounds obtainable they will be little exposed, and rapidity of fire combined with simplicity of construction and economy are of great importance.
4. The Imperial Government also propose to provide six 9-pr. R.M.L. guns for King George's Sound. The Committee consider that these guns are not suitable, and suggest that the cost of these proposed guns, together with the amount saved by obtaining Barbette in lieu of H.P. mountings, should be devoted to the purchase of quick-firing and machine guns.
5. There should be the simplest possible form of Submarine Mining Defence across the narrow entrance to the Harbour. This defence to consist only of four lines of 250-lb. ground mines, fired from the pilot station by means of a short range depression position-finder. The width of the deep-water channel at this point is only 200 yards. With the exception of cable, it is probable that the stores for such a defence could, if necessary, be provided out of surplus stock in Victoria and New South Wales.
6. Signal Stations, in telegraphic communication, are important adjuncts to coast defence. The movement of vessels can then be watched, and timely notice given of the approach of hostile cruisers. The Signal Station on Breaksea Island can report vessels coming from the eastward, but those from the westward, especially if they take the inside passage, cannot be seen until they are within half-an-hour of the Harbour. The Committee therefore recommend that a Signal-station be placed on Grove Hill, in telegraphic or telephonic communication with the battery on Point King, and through it on to the town of Albany. They further strongly recommend that a similar station be placed on Cape Leuwin, or its vicinity, and, above all, a first-class light. The importance of such a light to the Mercantile marine of all Australasia cannot be exaggerated. In peace time vessels could make boldly for the Cape in all weathers, and verify their position. In time of war the station and light would be of great service to our own cruisers, enabling them to communicate with their base without leaving their cruising ground.

With the small number of guns proposed, the Committee have considered it important for the present to place them on one side of the Harbour only, so that they may be well guarded by the small infantry force required as a war garrison.

The southern end of Middleton Beach can easily be protected against a landing. Lake Seppings, and the marshy ground which runs parallel to the sea, almost cut off the narrow line of sand hills which extends the whole length of the beach. It would be comparatively easy to excavate a ditch, making this ground impassable almost up to the base of the hill on which it is proposed to place the battery. Within 300 yards of this battery there is also a position from which a quick-firing gun can command the whole of Middleton Beach.

With regard to the force required for the defence, application should be made for the services of an officer of Royal Artillery for a period of three years, until an Australian officer can be appointed who has passed through the "Long Course" at Shoeburyness. This R.A. officer, in addition to commanding the Albany Artillery, could instruct the artillery at Perth and Fremantle. There should be a Permanent Artillery Force of 30, including the above officer—an artillery instructor and two trained submarine miners, and 26 gunners. The employés in the Harbour Master's Department and a certain number of the artillerymen to be instructed in laying out the lines of submarine mines in addition to their other duties. The Committee recommend that, until other intercolonial arrangements can be made for a Federal Regiment of Australian Artillery, the permanent garrison for King George's Sound be furnished by South Australia, whose permanent force should be increased accordingly. Unless provision is already made by an Act in force in Western Australia for the discipline of troops so serving in the colony, it would be necessary for that Government to pass an Act for the purpose. The cost of this Permanent Garrison with the necessary reliefs, to be divided between the colonies, as suggested in circular from Downing-street, dated 14th January, 1890. The inspection of the works and garrison to be carried out by officers detailed annually in rotation by the Governments of the contributing colonies.

A local Artillery Force, 60 strong, should be raised in Albany on the partially-paid system.

For the protection of the batteries an Infantry Force is necessary. This in time of war or apprehended hostilities should not be less than 300 men. As the total population of Albany is only 2000, it will be necessary to look to Perth and Fremantle, with a population of 20,000 to provide the Infantry Force. In the event of hostilities, actual or apprehended, the troops may be called out for a lengthened period, and as they cannot afford to be taken away from their trades for more than two or three weeks at a time, it will be necessary to allow a certain number to return periodically to their avocations. It would therefore appear essential for Perth and Fremantle to provide a partially-paid Militia Force of at least 600 men.

Although 300 men will be required at Albany, the balance of the force, living in or near Perth and Fremantle, will always be available at short notice for the defence of those towns.

ALEX. B. TULLOCH, Major-General,  
Commandant, Victoria, President.

M. F. DOWNES, Major-General,  
Commanding the Forces, South Australia.

JOHN S. RICHARDSON, Major-General,  
Commanding the Forces, New South Wales.

H. BERNARD, Colonel,  
Representing Tasmania.

G. A. FRENCH, Colonel R.A.  
Commandant, Queensland.

A. W. MOORE, Captain R.N.

1st December, 1890.

Three 6-  
Six 9-prs

Submari

Three 6-  
Submari  
Three 14  
perma  
Three 5-  
rounds



## APPENDIX A.

## COST OF ARMAMENT OFFERED BY IMPERIAL GOVERNMENT.

Three 6-inch B.L. Guns on H.P. mountings, with 100 rounds Ammunition per gun	...	...	£10,000
Six 9-prs., with 100 rounds Ammunition per gun	...	...	1776
Total	...	...	£11,776
Submarine Mine Stores	...	...	3500
			<u>£15,276</u>

## ESTIMATED COST OF ARMAMENT NOW PROPOSED.

Three 6-inch B.L. Guns on Barbette mountings, with 100 rounds Ammunition per gun	...	£7600
Submarine Mine Stores	...	1500
Three 14-pr. Quick-firing Guns on Field Carriages, if possible, and arranged also to anchor in permanent works, with 300 rounds Ammunition per gun	...	5391
Three 5-barrel Nordenfeldt Rifle-Calibre Machine Guns, on Travelling Carriages, with 15,000 rounds Ammunition for the same	...	1070
Total	...	<u>£15,561</u>

But the estimate of cost is large, it would be some time before the big guns could be provided, and in the meantime, the action for necessity for action presses. In these circumstances he would propose a scheme of defence recommended by the Inspector General of fortifications which would be rapidly improvised and would, it is believed, answer all present purposes. This scheme includes submarine mines for the protection of the entrance to Princes Royal Harbour, with earth works and light guns to cover the mine field and 40 pounders on seige carriages to fire upon Middleton Beach and the offing, the whole to be worked and manned by a minimum of 50 Artillerymen, 100 Infantry, and 15 Engineers, Her Majesty's Government, says Lord Derby, are prepared to assist the colonies, should they approve of this proposal, by at once sending out and delivering free of cost the armament and mines above referred to, provided Australia undertakes to defray all other expenses, roughly estimated at £600, and to maintain the necessary garrison. Despatches of this tenor have been forwarded to every Government of the Group - Governments which have already been prepared to consider the subject by a communication addressed to them by Sir Alexandra Stuart containing a memorandum upon it penned by Admiral Tryon. These despatches we published last issue, and as our sister colonies favour some such scheme, it rests with this Government to bring the matter to an issue without delay.

The Albany Mail, Tuesday 4th August 1885. (Micro)

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The Defence of King George's Sound. The following is Lord Derby's despatch to the Governor of Victoria, on the above subject. Sir, The Governor of Western Australia has recently drawn the attention of her Majesty's Government to the defenceless condition of King George's Sound. This question has already on more than one occasion been brought into notice and it was alluded to at the International Conference held at Sydney in January 1881.

At that conference a resolution giving expression to the colonial view was adopted in the following terms:-

That in the opinion of this conference, considering the large Imperial interests involved, the naval defence of these colonies should continue to be the exclusive charge of the Imperial Government, and that the strength of the Australian squadron should be increased. That the members of this conference pledge themselves to use all legitimate endeavours to procure the efficient fortifications and land defence of the several ports of the Australian colony at the cost of the several colonies interested. Although this resolution would apparently contemplate that each colony should bear the cost of fortifying its own ports, yet there are some ports the cost of defending which it is hardly reasonable to expect that a single colony should bear, and with regard to which the Australian Governments might well, in the opinion of Her Majesty's Government consider the expediency of providing the defence in common. King George's Sound is a strong case in point, for as General Scratchley, after a careful investigation on the spot reported:- "The protection of the Sound and Princess Royal Harbour is of vital importance for the general security of the Australian colonies in time of fwar. If left undefended the Sound becomes the weak point in the Australian system of defence." It is however obviously unreasonable to expect the colony of West Australia to provide and maintain the defence of this port at her sole expense, even if her means permitted her undertaking such a charge. Major General Scratchley when reporting in detail on the measures necessary to defend Princess Royal Harbour, including the town of Albany, and to deny the use of the Sound to an enemy, reccommend the construction of a fort mounting seven guns, of which three should be heavy guns, two 7inch 7 ton guns, and two 64 pounders on Possession Point, a rocky mound at the entrance of the harbour. He further recommended submarine mines, torpedo launches, and a gun boat carrying one 8inch breech-loading gun, and he estimated the total cost of the defences at £70,000. There is no reason to doubt that Possession Point is the best position

for a permanent work constructed at leisure, but the engineering difficulties of the site forbid its adoption for hasty defences such as alone could be provided at short notice. It is also considered that defences on a more modest scale than those recommended by General Scratchley would meet the requirements of the present moment. The following scheme of defence, recommended by the Inspector General of fortifications, could be rapidly improvised, and would in his opinion answer all present purposes.

1 Submarine mines for the entrance to Princess Royal Harbour.

2 Three 16 pounder muzzle loading guns on travelling carriages to be mounted on wooden platform in a small earth work, either to the west of King Point or to the west of King Point or to the west of the semaphore station, for the defence of the mine field.

3 Three 7in rifled muzzle -loading guns above Semaphore Point command the entrance to the harbour.

4 Two 40 pounders on travelling or siege carriages on the hill above King Point to fire on Middleton Beach and on the offing. An infantry point would be needed on this hill, which would be the key of the defence.

5 A garrison of 50 artillery and 100 infantry with 15 engineers to work the mines, would suffice as a minimum. The Australian colonies might well consider the expediency of placing the defences on a permanently satisfactory footing by constructing a fort, such as General Scratchley proposed on Possession Point, and arming it with guns of more powerful type. It is, however improbable, looking to the large demands that are being made on the manufacturing power of this country - that heavy guns of the latest type could be supplied for some time to come; and it is of importance, in the general interest of the Australian colonies that no time should be lost in defending the Sound on a scale sufficient to deny an enemy's cruisers the use of the harbour and the coal stored there. The scheme of defence here proposed would suffice for this limited purpose, and Her Majesty's Government are prepared to assist the colonies by at once sending

out the Armament and the submarine mines referred to above, delivering them free of cost if the colonies are willing to defray all expenses (roughly estimated at £6000, exclusive of barracks) and to maintain the necessary garrison. There can be no doubt, considering the high degree of efficiency to which the land forces in Australia have already attained that the colonies could readily furnish a body of trained men for working the guns and submarine mines. How the force should be constituted and whether it should be permanently stationed at King George's Sound or held in reserve ready to be despatched to the station in times of emergency, are questions which can only be decided in Australia, but in either case it would be essential that the force should be in excess of the forces ordinarily maintained for garrisoning the great fortified ports and that a small number of trained men should remain permanently on the spot to take care of the batteries and guns. Her Majesty's Government would be glad if the Government of Victoria would consider the above proposals in conjunction with the Governments of the other Australasian Colonies, to which similar despatches have been addressed and would communicate to me their views upon the subject. It would give Her Majesty's Government much satisfaction if the Governments concerned should be able to arrive at a common understanding. I have the honour to be, Sir, your most obedient humble servant.

Derby, Governor Sir M B Lock, K.C.B.

Downing Street, 12th June 1885.

The Albany Mail Tuesday 25th August 1885. (Micro)

chance of becoming good shots. The finance Committee also decided to buy new instruments for the band, and as the new uniforms are expected to arrive about the time the hall is completed. So Captain DeHAMEL'S wish to make the corps a credit to Albany may eventuate. The Plantagenet Rifles, not only an efficient body of men, but will form a nucleus of the partially paid force which is to be attached to the garrison at Albany, as soon as the fortifications are completed.

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9 MARCH Albany Mail (Micro)

15 MAY P3C (by telegraph) Mr BLACKBOURN leaves for King George's Sound to superintend the erection of the Defence Works. Albany Mail (Micro)

25 MAY P3B Arrival of Mr BLACKBOURN, the engineer assistant to General SCRATCHLEY. His appointment means proof the work will be well done. Mr BLACKBOURN states £15,000 is placed to his credit for expenditure in buildings and batteries, and that 3x6" guns with mountings to value of £15,000 as supplied by British Government. Continues.

P3C Same page MAY 27 Prize Firing Plantagenet Rifles gives names and handicaps.

3 JUNE 1891 P2G Albany Defence. Wanted: Stone breakers (100 yds) two good quarrymen. Apply BLACKBOURN. A/M (Micro)

3 JUNE P3E Telegraph Colonel Secretary received from Mr O J TRINDER informing him despatch of 2 6½ ton guns by steamer 'Suffolk' for this colony. They are probably the guns for the Albany Defences. Albany Mail (Micro)

1 JUNE P2F Tenders called for one thousand casks of Portland Cement in accordance with specifications and conditions to be seen at Engineers Office Albany. Albany Mail (Micro)

20 JULY P3G Mr BLACKBOURN has about 40 men working. The site of lower magazine has been excavated behind the great rocks. At the top of the hill, stables have been built, excavations have been carried out for site



891 AUSTRALIAN ADVERTISER 1 APRIL P3D (Micro)

Telegram from Melbourne: 'The Government of Victoria has undertaken the work of erecting batteries at King George's Sound.'

AUSTRALIAN ADVERTISER 1 APRIL P3F (Micro)

From London March 31: The cruiser HMS 'Wallaroo' formerly intended for Australian squadron, has been placed on reserve list.

AUSTRALIAN ADVERTISER 13 APRIL P3G (micro)

'The greatest event in the history of Australia has just been placed on record. Representatives of all the colonies have met in Sydney and have considered and passed a constitution for the Commonwealth of Australia. No events of equal importance can be found on the records of the colonies. More than one authority has declared that Australia, even yet, is still in her infancy, but with Federation she may be said to have come of age.' (Leading article continues)

AUSTRALIAN ADVERTISER 15 APRIL P3G (micro)

Australasian Defence: Address by General EDWARDS. Meeting of members of Royal Colonial Institute.  
(For photocopy) See also 17 April P3G.

AUSTRALIAN ADVERTISER 20 MAY P3B (Micro)

Town Council Correspondence: Re Plantagenet Rifles, Captain DeHAMEL wrote as follows -

"I shall esteem it a great favour if you will grant me the use of the Council Chambers on Friday and Saturday evening next, for the purpose of distributing the new uniforms to the members of the Plantagenet Rifles. I hoped the new Drill Hall would have been ready before the Queen's birthday, in which case I would not have been compelled to apply to you." Granted.

The Plantagenet Rifles have decided to celebrate the Queen's birthday by holding a prize firing competition on 27th. Subscription lists are in the hands of an energetic committee and no doubt the general public will respond, with their usual liberality. The new drill hall for the corps is rapidly approaching completion and will be opened in June when the event will be celebrated by a ball in the Town Hall and a church parade is ordered for 10.30am Sunday. It is hoped that with a more attractive uniform, the existence of a new drill hall (which is to be fitted up with a gymnasium and shooting gallery) and other inducements, the members will take a more lively interest in the corps than they have done in the past.

AUSTRALIAN ADVERTISER 10 JUNE P2G (micro)

The King George's Sound Fortifications:

The Victorian Government have determined on constructing the forts at King George's Sound. There will be a great demand for labour and the business of Albany will be increased. Such a work as the Fortifications will be the means of sending Albany along at a rattling pace. Major General EDWARDS selected the site and reported on the advantages of having King George's Sound fortified. After the deliberations of a Royal Commission it was decided to carry out the scheme suggested by Major General EDWARDS and hence the decision of the Victorian Government regarding Albany. When the forts are completed it will be impossible to enter the outer harbour unless you are in the range of the fortifications guns, therefore Albany will be impregnable, of any assault of the enemy in time of war.

AUSTRALIAN ADVERTISER 10 JUNE P2F (Micro)

Albany Defences: Wanted stonebreakers, piece work, (1000yds) 3in gauge.

Albany Defence Works: Wanted Timekeeper. Apply J BLACKBOURN.

AUSTRALIAN ADVERTISER 17 JUNE P3F (Micro)

Lieut. CAMPBELL, staff adjutant of W A Forces arrived in Albany last evening for drill instructions of the Plantagenet Rifles, and for the purpose of selecting a site for the new rifle range.



AUSTRALIAN ADVERTISER 17 JUNE P4B (micro)

Albany Town Council: The Government Resident wrote as follows-  
I am directed by the Hon. the Commissioner of Crown Lands to see that no one is under any circumstances to be permitted to secure stone, gravel or timber from that portion of Mt Clarence marked off as Defence Reserve, as per map now in my office, which you can see. I have sent the police warn off all persons and I shall be obliged if you will see that any licenses issued by your Council specially exempt the area referred to.

AUSTRALIAN ADVERTISER 19 JUNE P3E (micro)

The Plantagenet Rifles have had a course of instruction from Staff Adjutant CAMPBELL. On Wednesday evening they assembled in the Drill Hall in Norfolk St, and were put through formation and musketry exercises. Last evening they were led to the Recreation Ground and practised skirmishing. This evening a smoke social will be held in the Drill Hall and Adjutant CAMPBELL will introduce and explain the use of the Morris tube which is fitted into the Martini-Henry, and fires a bullet about the size of an ordinary revolver ball. Steps are being taken to fit the hall with gymnastic apparatus, which will be a source of amusement and recreation to the members. A number of recruits have joined the corps.

AUSTRALIAN ADVERTISER 19 JUNE (Micro) P3D

About 30 men are employed on the fortification at Albany and the work is proceeding satisfactorily.

AUSTRALIAN ADVERTISER 24 JUNE P2F (Micro)

Albany Defence Notice: During blasting operations a red flag will be hoisted ten minutes before firing to enable the public to keep out of danger.

Signed John BLACKBOURN Engineer of Defences.

AUSTRALIAN ADVERTISER 13 JULY P2F (Micro)

Albany Defences: Tenders will be received for carting cement to works. One thousand casks in accordance with specifications. Tender to be delivered July 18.

Signed John BLACKBOURN Engineer of Defences.

A VISIT TO THE ALBANY DEFENCE WORKS

(BY OUR SPECIAL REPORTER.)

It is not a pleasant march on a hot afternoon in Mid-summer from Stirling Terrace to the battery on Mount Clarence.

Two miles of steady, though not steep ascent, with the major part of the route - that portion running along the Brunswick Road exception - lying over a wearisome track in loose sand, through a monotonously hued scrub landscape, occasionally relieved to the eye by a refreshing glimpse of Princess Royal Harbor. Oh! that villainous, fly-infested bush track, where I sank at each step ankle deep in the hot sand! Perhaps it was the influenza that made me irritable and blinded me to the natural beauties of the road. I hope it was, but, any how, I know I shall not readily forget the tramp, or essay it again without great provocation.

From a saddle where the slopes of Mount Adelaide run into the adjacent high ground, a mound of earth apparently surmounted by a rough flagstaff, and situated a little higher up the side of the hill, is visible, indicating where Albany's Defences are in process of formation. "Excelsior," a few minutes trudge up this last ascent and I was in the heart of the works. I was fortunate in finding Mr Blackbourn and his assistant on the spot, and the former, who was busy centreing one of the wells for the gun carriages, kindly gave me permission to wander about and see all there was to be seen for an hour, till he was at leisure to attend to my thirst for information. This I accordingly did and this is what I saw.

"Place aux dames." Dame Nature first. From the sea face of the battery the view over the Sound is the most perfect one, I suppose, to be had from any eminence about Albany, being finer in my opinion than that obtainable from even Mount Clarence. The day was bright, the atmosphere clear and the panorama an extensive one. Fully one-half of Middleton Beach was visible with its bay of Mediterranean-blue water (by the bye why is it that the water in Middleton Bay is always so exceptionally blue, even in cloudy weather?). Emu Point and away up Oyster Harbour were well within vision on the left, while in front Michaelmas Island and Breaksea seemed in the close foreground with the mainland running away to the left of the former and finishing up the Dunder Island in the extreme distance.

To the right front, Bald Head reared itself with Seal Island apparently at its base, while more to the right Rabbit Island, Point Possession, the entrance to Princess Royal Harbour and a great portion of the latter harbor itself lay mapped out below us. Influenza, notwithstanding, it was a perfectly lovely piece of sea and landscape scenery combined and temporarily reconciled me to the drag through the hot sand previously endured.

At the time of my visit - a couple of days ago - the heavy work of rock blasting and excavation was completed and the two wells - I don't know whether that is the right term or not, my knowledge of fortification construction having been confined to Vauban's system instilled before the days of breech-loading monster guns, nearly 30 years ago, into my youthful mind and long since forgotten - or receptacles for the gun platforms were nearly ready for concreting and cement. A sunken way, excavated like the aforesaid wells, out of the solid rock, was in an equally advanced state and the workmen were engaged in manufacturing concrete and filling in the material between mould planking to form the sides of the magazine. The whole of this work is carried out with a timber skin or lining, which is removed when the cement has sufficiently set and hardened into shape. The bomb proof chambers of the magazine are sunk in the solid rock and when covered with concrete and

## A VISIT TO THE ALBANY DEFENCE WORKS (CONT)

finished off with an earthen coat will be as safe from injury as human ingenuity can possibly make anything.

Having marked and inwardly approved what I beheld at Mount Adelaide, I proceeded to the lower battery situated above the lighthouse. This is reached by a steep path straight down the side of Mount Adelaide, a veritable Jacob's ladder - and here let me advise those who are desirous of visiting the fortifications to make their way first to the upper battery and so down to the lower one for if they follow the other plan and visit the lighthouse battery first, those of them, not members of an Alpine club excepted, will assuredly on beholding Jacob's ladder elect to remain below and so miss ~~the~~ most interesting part of the defence works and the loveliest view in or about Albany. the works at the Lower Battery are of a similar character to those on Mount Adelaide, except that the lower battery only mounts one gun in place of two. The work here is nearly completed, that is to say, is so far finished that if the guns were here, the one for this battery might be mounted at once. The magazine also is finished, except the final rendering of the cement and the necessary earthwork. Mr Blackburn was kind enough to pilot me into the bowels of the lower magazine, a work of some difficulty, owing to the complicated nature of the wooden stays and barricades that shaped and held the concrete in place, and getting through and over which, was like "negociating the hindrances put up for an obstacle race," as another visitor who accompanied us remarked. The darkness of the magazine chambers was Egyptian in density and was hardly made light by the candle held by our guide. The cement lining of the walls and roof was hard and smooth, showing careful finish, and the interior only required rendering, or in other works, a final polishing up, to complete it. Some idea of the extent and solidity of the concrete work may be arrived at by consideration of the fact that, roughly speaking, 1,500 cubic yards of concrete alone have been used in the construction of the works.

As regards armament, the Mt Adelaide Battery will have two 6in. Armstrong breach-loading guns mounted en barbette and the lighthouse battery will be armed with one of similar calibre. These guns weigh  $6\frac{1}{2}$  tons each. Barrack accommodation for 28 men and cottage quarters for one commissioned and one warrant officer are to be erected shortly and I was informed that the tenders for the construction of these buildings in wood or stone will be called for shortly and tenders for the laboratory, artillery store, and other stores and offices in connection with the Defence works are to be let on the return of Mr Blackburn from the colonies, where he is proceeding by the Britannia next week. The Engineer in charge seems to be well pleased with the progress the works have made, and which is largely due to the able assistance he has received from his Inspector of Works, Mr Bolton.

The fortifications now being erected for the defence of this port are rapidly approaching completion, and a few weeks will see the whole of the works ready for the reception of the military force which is to be stationed here.

On Thursday afternoon a representative of the 'Advertiser' visited the site of the defence works, and through the kindness and courtesy of Mr Blackbourne, the engineer in charge, was shown over the whole of the buildings in connection with the upper and lower forts. From these forts, perhaps some of the finest marine views of the world are to be seen.

The barracks for the troops, are expected to be finished in a few week's time. The building is quite close to the upper fortifications and it has been laid out in two detached portions with an eight feet wide verandah running along both the front and back portions of the structure. The barrack rooms which are to the right of the main entrance are divided from the left portions of the building by a wide passage which runs the whole width of the building. The barrack rooms which are each 36ft by 20ft, are commodious and lofty rooms, well lighted and ventilated, so that ample provision is made for 30 men. On the left of the main entrance passage there is a nice little room for the convenience of the non-commissioned officer in charge. There are also other two spare rooms on the left, and fronting the main entrance, which can be used for a military office and a doctor's room. Facing the entrance to the barrack rooms there is a compact lavatory with the water laid on. Close to the lavatory there is a storeroom for the use of the soldiers. The kitchen which is attached to the back portion of the barracks is fitted up with two coppers and a large range, sufficient to do all the necessary cooking requirements for 90 men. Attached to the kitchen there are a scullery and pantry. The water is laid on to the two former apartments. A few yards from the side entrance to the kitchen, there is a 9000 gallon cemented underground tank, and other sources of water supply are provided by five 400 gallon galvanised iron tanks which are to be placed between the detached portions of the buildings, and from these the water will be laid on for culinary and other domestic uses. These tanks can be replenished, when needed, by pumping from the underground tank. A garden will be laid out in the front of the building and enclosed by a picket fence, and close to the barracks a billiard and recreation room 28ft by 20ft, for the use of the men will be erected. To the eastward of the barracks there is being erected quarters for the warrant officers. The building contains five rooms, besides a scullery and pantry admirably adapted for a family. The rooms which measure 12 by 13 are lofty and well ventilated. The residence of the officer in charge of the garrison is cosily sheltered on all sides about fifty yards from the barracks, and it commands a picturesque view of the hill and valley, of the background of Strawberry Hill and Oyster Harbour, while Middleton Road appears quite close below the front verandah. The building is neat and comfortable and the style of architecture most pleasing. There is a wide passage running through the building. The drawing room and dining room are both 16ft by 14ft and 11ft high. There are two bedrooms each 14ft by 14ft. Off the drawing room there is a very convenient pantry. There are also a servants' bedroom, kitchen, scullery and bathroom with the water laid on. In addition to the wide verandah in front of the building, the back is also verandahed over. It is intended to level the slope in front of the house and lay it out as a law. A made road is being constructed from the officer's house to the barracks. There is altogether about one mile and a quarter of good metal roads to be formed in connection with the fortifications.



The upper magazine has chambers sufficient for the storage of 400 shells, and a similar number of cartridges. The storage rooms (to which descent is made by a narrow ladder way) are surrounded with what is known as the lamp chamber in which lamps are placed within glass enclosures, and light up the ammunition rooms, so that the removal of the explosives is easily and comfortably worked, the powder and shot passing up to the guns through two hoist chambers. The main passage of the magazine is bomb proof. The whole of the magazine is built of concrete, which was thoroughly tested by Mr Blackbourne, who has a most ingenious machine for that purpose. The fittings of the magazine are all of gun metal. The whole of the magazine apartments are admirably ventilated. Besides the mass of solid concrete of which the magazine is constructed, there is no less than ten feet of earth over the concrete. The earth has been levelled over, and it is intended to plant it with grass, thus making the covering of the magazine wear Nature's verdant garb.

The two guns on the upper fort are of the 6-inch type, and weigh each about six and a half tons. These weapons will be mounted 'en barbette'. There is a secure officers' lookout just immediately behind the guns, and there is a safe cover for the artillerymen to and from the magazine. Inside the fort there are apertures for the powder and shot when being used for either practice or the more deadly uses of war. The concrete surrounding the guns is five feet thick, and over this solid mass there is a deep covering of earth, which will be sown with grass, thus masking the forts from any hostile vessel that might enter the Sound.

One of the guns on the upper fort has a complete sweep of Middleton Beach, the Sound and the entrance to Princess Royal Harbour; the other gun sweeps from Herald Point round, and will cover the whole of the inner harbour. These guns will throw shot and shell a distance of 4000 yards, which at that range will pierce four-inch armour, a thickness of plate not yet carried by swift armed cruisers of the type that would be used in actual warfare away from an enemy's base of operations.

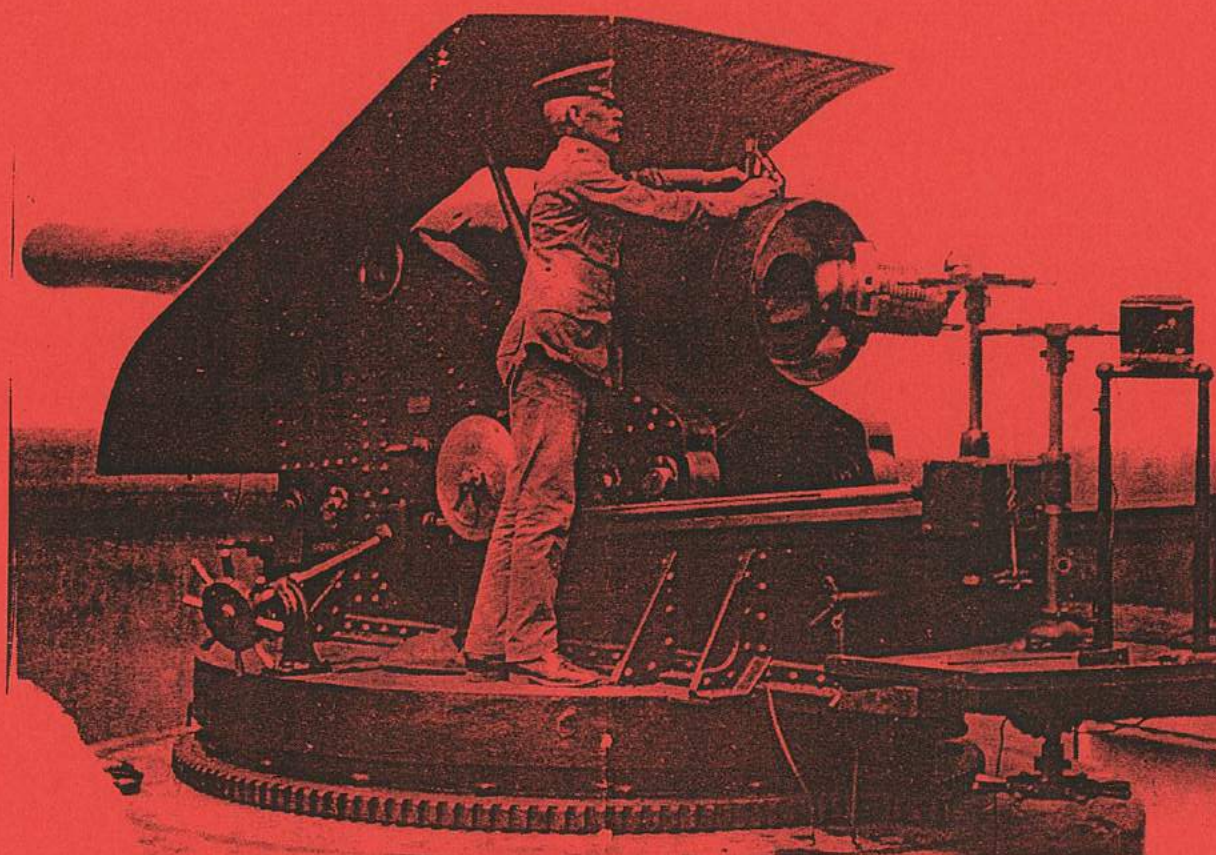
From the upper fort to the lower fort there is a footpath formed, and to the left of the Point King works a five acre paddock has been cleared and sown with various kinds of grasses, which are already springing up wonderfully well. This paddock when grassed all over will make a capital sporting ground for the members of the garrison, and it will appear to passengers on the incoming steamers a most pleasant and pretty relief to the surrounding undergrowth of thick scrub, besides giving good impressions of the fertility of the soil around the Albany foreshores.

The lower fort at Point King is to be fitted with one gun of the same calibre as those in the upper fort. There is also a magazine at the lower fort similarly constructed to the one above, but on a smaller scale. Mr Blackbourne has here taken advantage of the splendid covering of rocks and has constructed the magazine immediately behind this natural protection, all round which he has covered over with earth to a depth of ten feet, which is also sown with grass. This magazine has storage chambers for 200 rounds of shell and cartridge, and even should a vessel carrying a 25 ton gun make her way up to the harbour entrance and bringher guns to bear on this magazine the shot would glance harmlessly off it upwards. The gun to be placed on the lower fort will sweep from Middleton Beach round the Sound into the inner harbour entrance. It will thus be seen that the guns to be mounted on both forts will have a complete sweep of alike, King George's Sound, Middleton Beach

the entrance to the inner anchorage and the whole of Princess Royal Harbour.

The protecting walls surrounding both forts are massively constructed of concrete with a thickness of five feet, besides the additional covering of earth referred to. In addition to the building now approaching completion, tenders have been let to Mr Layton for the erection of an artillery store on the hill, a laboratory and mine store at the Semaphore, and a gun shed in Albany, where six nine pounder quick-firing guns will be kept for artillery drill by the local forces. These guns, of course, would, if required, play an important part in a defence.





Conservation – Renovation – Development  
Albany Barracks and Princess Royal Battery

**Australian Coastal Defences**

**King George Sound W.A.**

**TOWN OF  
ALBANY**

York St., Albany 6330  
Western Australia  
P.O. Box 484  
Telephone 41 2333





## WELCOME TO 'THE FORTS'

'The Forts' is the affectionate name for the 'Princess Royal Fortress' originally called the 'Federal Fortress - King George Sound' at Albany, Western Australia.

Commanding panoramic views of Princess Royal Harbour, King George's Sound and Oyster Harbour, the Forts site on Mount Adelaide is located in the 200 hectare Heritage Park [Fig 1]

## HISTORIC BACKGROUND

Constructed in 1892 against a background of growing imperialism and naval expansion, the Federal fortress was built to defend the strategic coaling station and Port of Albany. The then still independent Australian States realising that occupation by a hostile naval squadron would be a threat to their own security, agreed jointly to finance the Fortress. The British Government provided the armaments.

In 1893 the first permanent garrison was installed, the guns were mounted and the first Federal fortress was operational. Except for a short period during the 1920's, it remained in commission until 1956.

## PROJECT BACKGROUND

By 1983, when the Town of Albany gained control over the site, it was in a state of vandalised neglect and in many people's estimation, ready for 'landscaping with a bulldozer'. The Albany Town Council did not share this view and instead, with assistance from the Commonwealth and West Australian Governments, embarked on the ambitious concept which is still continuing. As Stage 2 of the project nears completion, visitors to the site enthusiastically applaud the work, the standards, the buildings and the concept.

You are invited to join with the Town of Albany in the exciting work of conserving the fabric and remaining buildings of this pre-federation coastal defence fortress, of restoring the buildings and structures to their former dignity and developing the site as a vibrant cultural and heritage attraction.

This project report update starts by reaffirming the basis of the project concept and proposed operation. Work completed and work ahead is outlined and in addition details are provided of the proposed restoration of the original barracks - Council's targeted project for major funding assistance, 1988/89.



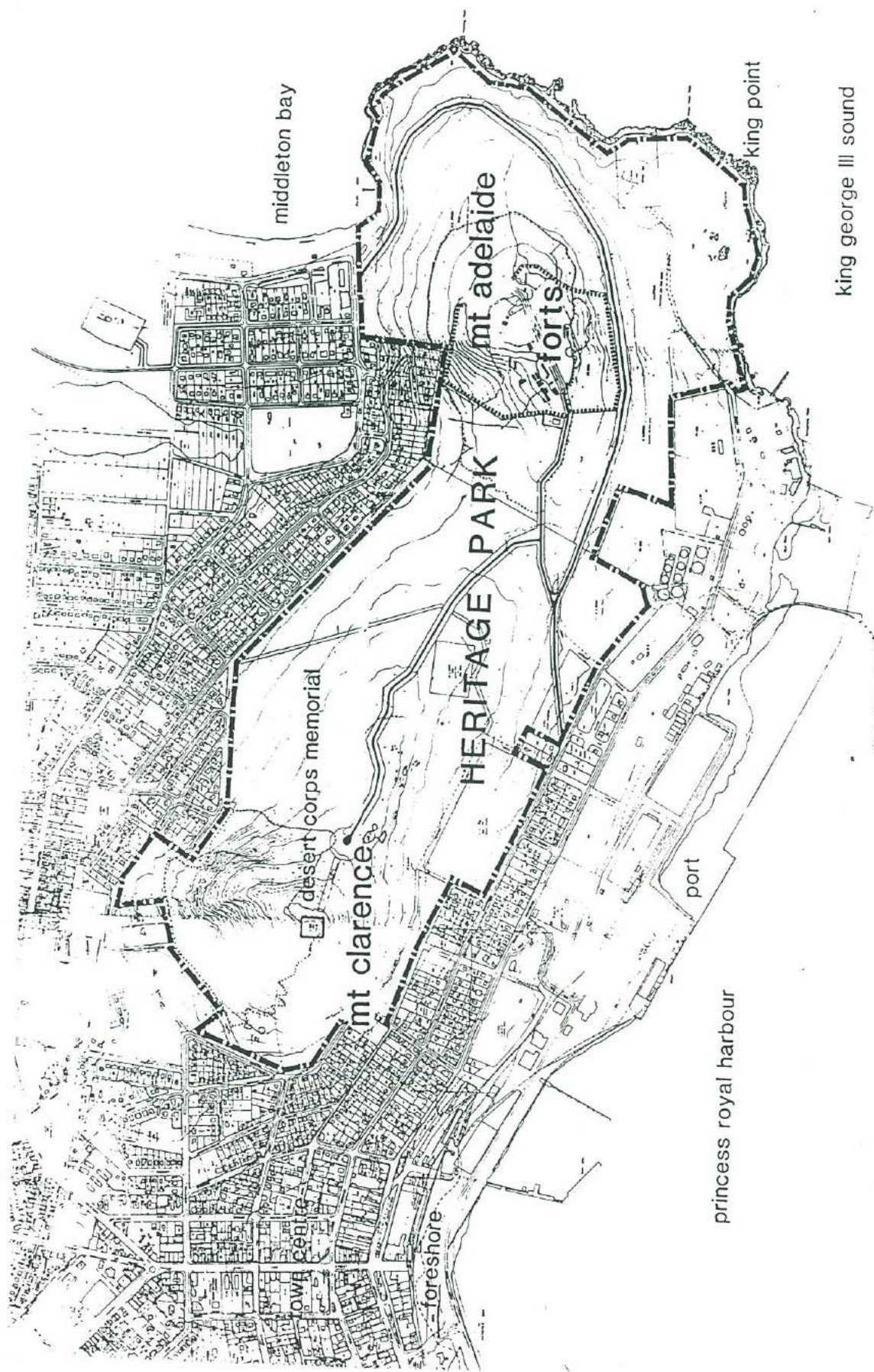


fig 1



## THE CONCEPT AND THE PLAN

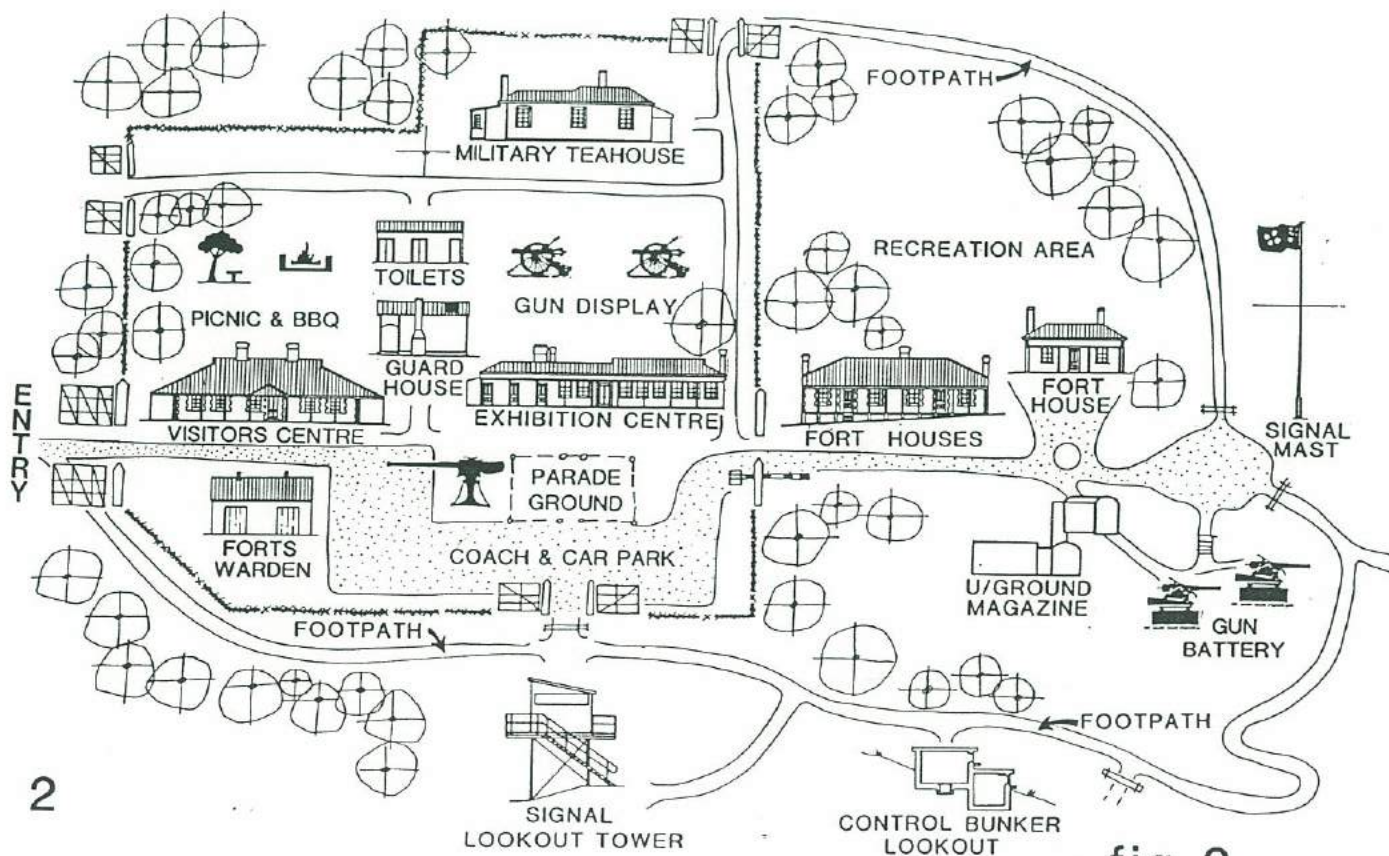
On gaining authority over the forts site, Council instigated a management report to identify site potential and possibilities for development. The concept behind today's Forts restoration programme originated when one of the area's identified in the report caused Council to face the dilemma of commercial exploitation of the site.

The site with its superb location naturally attracted great interest for commercial exploitation. Understandably to Council, this idea was attractive in that it provided a source of funding to restore some of the fortress. However the cost of loss of public amenity and the wording of the vesting order "Heritage Value to be Maintained" decided Council to seek an avenue whereby the site was retained for public use but with commercial viability created.

### THE CONCEPT

Rather than introduce a "foreign" attraction that would provide a source of funding for the site it was conceived to develop the site as its own attraction and thus was formulated the "Forts" concept:-

*Conserve, restore and develop the 'Forts-site' to illustrate the life, history and heritage of the first federal fortress as a self-contained, living and self-supporting world-class attraction.*



## THE PLAN

Within the boundaries of the main fortress site, it was conceived to create an historic artillery military park where the buildings, structures, guns and grounds would be restored and featured to compliment their original function and developed to provide areas for exhibitions, displays, amenities, facilities and accommodation: [fig 2]

- . The restored buildings will illustrate the social, cultural and heritage aspects
- . Developing amenities and facilities compatible to the dignity of the site to provide economic viability and assurance for the future
- . Accommodation to provide on-site security and low-level maintenance
- . Restoration of the guns to return the Forts to its point of cultural significance in Australian history.

## FROM PLAN TO PROJECT

After acceptance by Council, the plan was developed as a project in 4-stages:

STAGE 1 Conservation of existing buildings and development of site infrastructure and landscaping.

STAGE 2 Completion of second level aspects leading from Stage 1.

STAGE 3 Restoration of the buildings and structures with completion of facilities and amenities.

STAGE 4 Development of buildings for displays and/or operational use.

## SUMMARY

The finished historic military park will see the forts once more as an active area; restored as part of our past - a living heritage with a living future.



## PROJECT OPERATION [INCOME.]

The project concept was based on a viable attraction, meaning an autonomous operation that after initial investment will be self-supporting.

To assist with this intent a gate charge per car is envisaged of an amount not too high to create resistance but sufficient to be an inducement and to provide a base income.

Income Direct - Gate Entry. ( $\$2/\text{car} \times 20,000 = \$40,000$ )  
The anticipated gate income is to cover for wardens salary (deduct accommodation) and annual maintainance at 1% of invested capital/annum.

Income Indirect - The Barracks area redevelopment has been designed to cater for all visitor needs, information historical and heritage relationships etc.

Visitors Centre - The Visitors Centre, with its shop/display and theatrette/refreshment is expected to be operated on a job-share basis. In order to maintain quality control on products sold, information and security, operation of the shop will be by Council. Profits could provide a fund for the Forts Volunteers to have a degree of financial security to obtain uniforms (1893) construct artillery displays, maintain the guns and develop small ancillary sections of the site.

Teahouse - The teahouse will be leased with controls to maintain authenticity, standards and compatability to the site. Lease income will provide maintenance income both for the teahouse and as a contribution to overall site maintenance.

Exhibition Centre - Central to the support concept for the barracks area is that the original barracks building be restored and equipped as the exhibition centre of the military park. There are no plans for any entry charges to the barracks exhibition and display centre as this building features strongly in generating income.

Ex-servicemen -By providing accommodation for ex-servicemen to act as a securityand maintenance factor, cost savings can be realised, in these sectors, which are in turn a form of income. When the presence of these men is linked to their uniform, guide and promotion potential, the positive effects of a living enviroment will be a great, if unquantifiable, boost to income.

## SUMMARY

When the income production is related to the concept it will be appreciated that given the location and the attraction of the forts then a 'self contained, living and self-supporting attraction of world class conservation is very feasible and worthy of all the assistance that can be provided.

## PROJECT OPERATION [SECURITY.]

- . The site is fenced to minimize un-official access.
- . A warden couple will be appointed and live on site controlling general security including shutting of entry access to site (by gates) during the hours of darkness
- . Besides the warden couple accommodation it is intended to reconstruct two-accommodation buildings on site; the buildings are the married quarters - 2 semi detached cottages, and the warrant officer's quarters. (On the concept drawing these are indicated as Forts houses). These buildings will then house 3 couples (ex-servicemen) who in return for accommodation will be expected to provide additional maintenance and security/guide staff
- . The visitors centre will be manned by paid staff and the tea house will be operated under lease
- . The Forts Volunteer Corps is to be raised from interested local people and through this group, gun drill, marching, artillery building and guide sections will be formed. Hopefully all sections will be fully uniformed.
- . All display area windows will be non-openable and mechanical ventilation will be provided to maintain freshness
- . The site will be fitted with a forced-entry detection alarm system connected to the wardens flat

## SUMMARY

- . It is anticipated that up to 12 people will be daily on site, (8 people living on site) with this number swelled by occasional maintenance staff and at weekends by personnel of the proposed Forts Volunteers (Friends of the Forts). This should prove adequate to provide security and low key maintenance for the foreseeable future.



## PROGRESS TO DATE

### Stages 1 and 2 [1987 - 1988] [work completed]

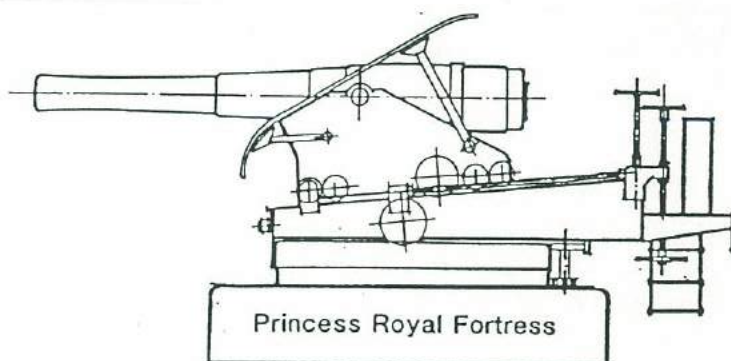
- . Ground cleared and buildings identified
- . Buildings made safe, roofed, walled and painted
- . Underground power and telephone reticulated
- . Paths created and site landscaped
- . Gun emplacements cleared and repaired
- . Flagpole rebuilt and site fenced
- . Barbecue and toilets constructed
- . Wardens accommodation constructed
- . Bicentennial look constructed
- . Work on the gun rebuilding started.

### Stage 3 [1988 - 1989] [work planned]

- . Visitors centre refurbished
- . Parade ground and car-park
- . Completion of guns
- . Gun emplacement restoration
- . Underground magazine refurbishment
- . Establish Forts Volunteer Corp
- . The barracks restoration
- . Barbecue weather roofing
- . Extension and reticulation of water services.

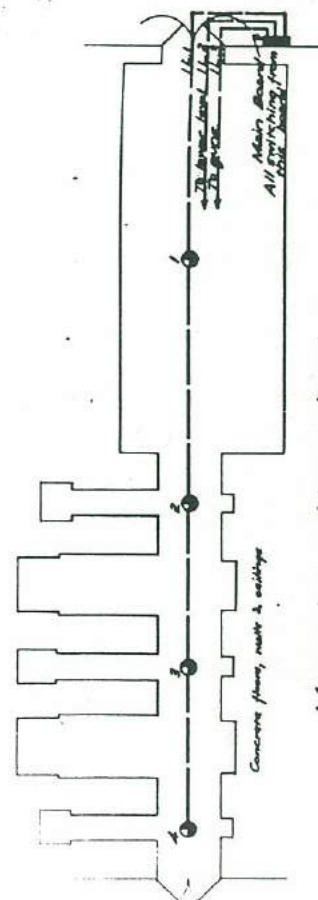
### Stage 4 [1989-1992 (Forts Centennial Year)]

- . The Barrack Exhibition Centre
- . Teahouse (private investment)
- . Accommodation quarters restoration/construction
- . Construction of replica artillery pieces
- . Display centre theatre and video re-enactments
- . Ancilliary buildings reconstruction.

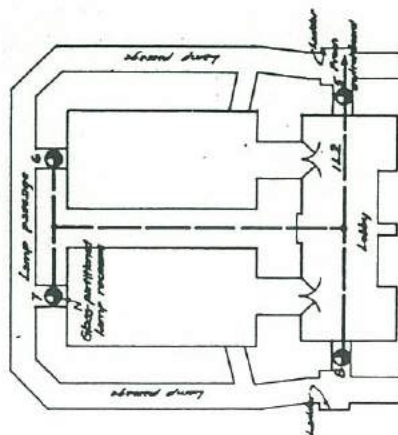


King George's Sound Albany WA

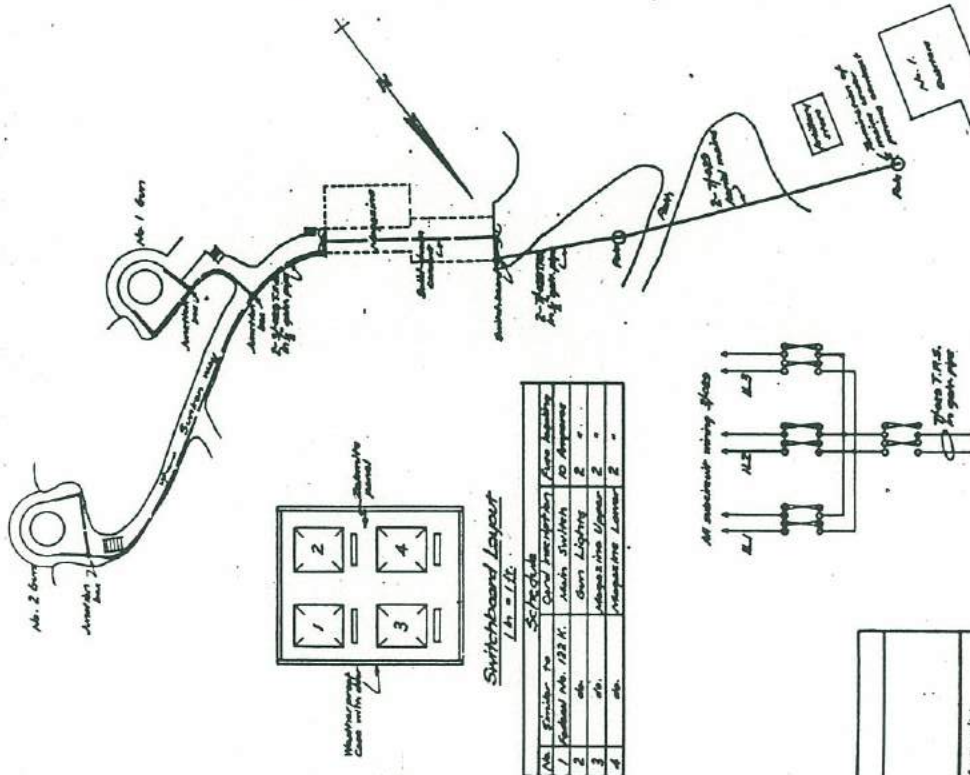
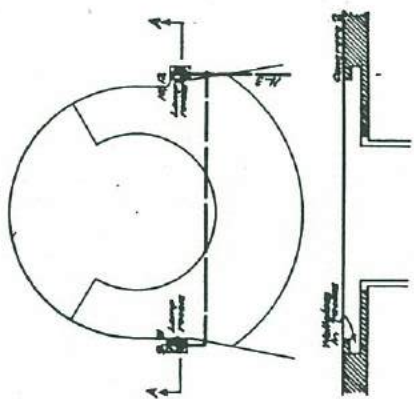




Magazine - Upper Level



Magazine - Lower Level



Switchboard Wiring

General Layout  
 Scale: 1/4" = 40'±

Switchboard Layout  
 L<sub>1</sub> = 1 L<sub>2</sub>

No.	Symbol	No.	Symbol	No.	Symbol	No.	Symbol
1	1	5	5	9	9	13	13
2	2	6	6	10	10	14	14
3	3	7	7	11	11	15	15
4	4	8	8	12	12	16	16

Fittings - Schedule

Location	No. as per plan	Lamp		Remarks
		Watts	Volts	
Magazine entrance - stair	1-4	4	240	14.1
Magazine - upper level	5-8	4	240	14.2
Magazine - lower level	9-10	2	120	14.3
No. 1 Gun	11-12	2	180	14.3
No. 2 Gun	13-14	2	180	14.3
Table	15-16	12	720	10.4

Smaller in type and quality to unmentioned fixture

SECRET

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